

Standard Operating Procedure of Exhaled breath condensate device

1- Purpose

This instruction describes the use of Exhaled breath condensate (EBC) device model A/89/A 029294 Made in Iran with Identification number of 1392/09/18- 81363 is located in the Biomedical Laboratory of the Pharmaceutical Analysis Research Center.

2- Scope

This device collects EBC samples for determination of the concentrations of drugs, biomarkers, toxic compounds, and other biomolecules including DNA.

3- Responsibility

The laboratory assistant is responsible for the accuracy of the apparatus.

4- Materials and equipment

Exhaled breath condensate, Distill water

5- Guidelines for use

- Plug the apparatus into a power system.*
- Turn on the device with a key on the left hand of the device.*
- Turn on the cooling system and the device starts displaying the ambient temperature, and then quickly cools down to a temperature difference of about 40°c degrees.*
- Give the devise enough time (usually 5 minutes) to cooling up.*
- To collect the exhaled sample, the mouthpiece is first gargled with distilled water several times.*

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- *Sample donor seated behind the device.*
- *Striking the nose clip on his/her nose and beginning to breathe out into the disposable mouthpiece.*
- *After the sample collection is completed (the volume of the sample depends on the requirement of the analytical methods used), the sample will be stored at -80 °C.*
- *After work is done, it is recommended that the device is unplugged and covered.*

6- Warning and safety precautions:

- *Exhaled specimens, like other biological samples, could be contained dangerous materials and require caution. Wear gloves when work with EBC samples.*
- *Connect the device to the power stabilizer to prevent serious damage to the device due to power fluctuations.*
- *Avoid handing over the device to beginners and unfamiliar staff with instrument.*
- *For measurement, use a sample container free of foreign materials and particles.*
- *After work is done, it is recommended that the device is unplugged and covered.*

7- Maintenance

The exhaled breath condensate should be kept dry and away from direct sunlight.

After work is done, turn off the device and cover it

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8- References

Rosias PPR, Dompeling E, Hendriks HJE, Heijnsens JWC.M, Donckerwolcke RAMG, Jobst Q. (2004). Exhaled breath condensate in children: Pearls and pitfalls. *Pediatric Allergy Immunol*, 15, 4–19.

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